

OLCF User Council

Balint Joo



Oak Ridge Leadership Computing Facility



U.S. DEPARTMENT OF
ENERGY



OAK RIDGE NATIONAL LABORATORY
MANAGED BY UT-BATTELLE FOR THE DEPARTMENT OF ENERGY

The OLCF User Council

- The User Council exists to be a conduit between Users and the OLCF.
- We are at once
 - an advocacy group for YOU the users
 - your issue here...
 - a body with which OLCF can consult regarding issues affecting users:
 - application readiness on future machines
 - filesystem and queue policies
 - allocation management policies (e.g. queue penalties, claw-back etc)
 - training and outreach (e.g. what sort of material to present at training workshops)

The Current Council

- The current council has the following members:
 - Chair: Balint Joo, Jefferson Lab
 - Dario Alfe, University College London,
 - David Ceperley, University of Illinois Urbana-Champaign
 - Choong-Seock (CS) Chang, NYU
 - Eirik Endeve, Oak Ridge National Lab
 - Stephane Ethier, Princeton Plasma Physics Lab
 - Gerhard Klimeck, Purdue University
 - Trey White III, National Center for Atmospheric Research
- The user council meets monthly by teleconference

Issues Discussed: Queue Policies

- **Constant battle over queue policy: Capability v.s. Capacity**
 - **Be aware: OLCF has DOE Mandates it has to meet**
 - 40% of jobs this year have to be over ~40,000 cores to meet DOE metrics
 - This limits the leeway OLCF has to boost small (capacity) jobs
 - but queue limits are there to get your work done, so if they don't work for you, speak up.
 - **However, there is a 'capacity work' still to be done**
 - This used to run well on Cray XT4, but that has now been retired.
 - Again: If the queue policies don't serve you well, speak up! We will advocate for you.
 - **If you can run at or over 40,008 cores you really should do so**
 - Current queue policy is very friendly to users who can run at this level
 - There are currently no penalties for 'overusing' your allocation if you can run at this scale

Issues Discussed: User Support

- OLCF strives to improve your user experience. Members of the user council have acted as beta testers for:
 - new Support Web Site
 - even newer Support Web Site
 - Opt-in mailing lists for machine status
- Suggested but not yet tested:
 - machine status notifications to your phone
 - outreach through social networking (e.g. Facebook)

Issues Discussed: User Survey

- OLCF has to report on its activities to DOE
- One component of this is the User Survey
- A large amount of time was spent discussing
 - the results of the last user survey (talk this morning by Bill Renaud)
 - how to entice users to complete the User Survey
 - how to address issues that came out of the analysis of the survey
- Things to remember about surveys:
 - surveys with small number of participants tend to emphasize dissatisfaction (dissatisfied users are more motivated to complain)
 - even if you are satisfied with OLCF, it is still worth doing the survey to say so.
 - the survey is conducted and analyzed by ORISE. ORISE does not release your name to OLCF unless you give them permission

Issues Discussed: OLCF-3 (a.k.a. Titan)

- Titan is coming (talk this morning by Bronson) quite soon
 - 2012 seems far away but it isn't
- Titan will be a Cray System with GPUs
- User Council is aware, that programming GPUs is a challenge
 - a lot also depends on internal details (PCI & Comms latency & B/W)
- A lot of discussion focuses on application readiness for Titan
 - Webinar about Titan in the summer
 - Workshops on Hybrid-GPU programming
 - with CUDA, OpenCL
 - with directive based compilers
 - Access to development systems (GPU Clusters) with tools
 - CUDA, OpenCL
 - PGI Compiler
 - Cray Compiler(?)
 - One on one help from OLCF?

Issues Discussed: User Training

- A lot of discussions about what kind of material to add to ‘Spring Training’ and ‘Fall Training’
- What kind of material to present to help with GPUs
- Bobby is looking for users with experience to share...
- It is not convenient for everyone to come to ORNL
 - Workshops are now being webcast.
- Speak up if you want to see particular topics covered, e.g.:
 - NUMA, Efficient use of OpenMP, Cache blocking, memory management
 - Hand Vectorizing code with SSE Intrinsics (AVX for the future?)
 - Or more basic stuff: More detailed MPI training?
 - More hands on stuff (Logging in, batch scripts, monitoring queues etc)
- How can you help:
 - If you are an experienced user, volunteer to present material
 - If there is something that you want covered, let us/Bobby know
 - Help OLCF improve their workshops by submitting feedback (questionnaires)

Next year of User Council

- B. Joo has agreed to stay on as chair for another year and (hopefully) so will members of the current council
- My chief agenda item:
 - Helping users get ready for Titan / OLCF-3
- But: The User Council is there for You. Contact Us
 - If you have something you'd like the council to raise with OLCF
 - If you have issues with queues, filesystems and accounts and the regular channels seem to not work for you.
 - Have other item you would like raised in council
- The OLCF takes user outreach and satisfaction very seriously and would like active engagement with the user community.
- Bottom Line: OLCF is here to get your science done.

Contact Us

- If you wish to raise an item with the User Council write to me
 - email: [bjoo AT jlab.org](mailto:bjoo@jlab.org)
- You can also reach us via OLCF User Outreach:
 - email: [ashley AT ornl.gov](mailto:ashley@ornl.gov) (Ashley Barker)
 - email: [whittenrm1 AT ornl.gov](mailto:whittenrm1@ornl.gov) (Bobby Whitten)